

## A B S T R A C T

~~OPTICAL TRANSMISSION SYSTEM USING COHERENT OPTICAL TIME DOMAIN REFLECTOMETRY~~

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The invention concerns a method of reducing interaction between the signal in one transmission direction (2) and backscattered noise originating from the other transmission direction (1) in an amplified and non-bi-directional fiber optic link including optical loopback (18, 19, 21) of the amplifiers (13, 14; 15, 16) to enable COTDR (coherent optical time domain reflectometry); it is characterized by widening the spectrum of the signal in at least one transmission direction, for example by wavelength modulation. The modulation is simply effected by modulating the injection carrier of a laser (3) used as a sender, for example. Modulation at a low frequency - in the order of 1 kHz - is appropriate. This is a simple way to reduce interaction, whilst enabling COTDR. The invention also concerns a link implementing the method.

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